

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

SYNQOR, INC., §  
§  
v. § CASE NO: 2:07-CV-497-TJW-CE  
§  
ARTESYN TECHNOLOGIES, INC., et al. §

**MEMORANDUM OPINION AND ORDER**

**I. INTRODUCTION**

Pending before the Court is Defendants' Artesyn Technologies, Inc. ("Artesyn"), Astec America, Inc. ("Astec"), Cherokee International Corporation ("Cherokee"), and Lineage Power Corporation ("Lineage") motions for judgment as a matter of law ("JMOL") on the issues relating to damages (Dkt. Nos. 811 and 817). Also pending before the Court is Defendants' Artesyn, Astec, Cherokee, Lineage, and Bel Fuse, Inc. ("Bel Fuse") motion for JMOL on the issues relating to damages (Dkt. No. 968). Also pending before the Court is Defendants' Delta Electronics, Inc., Delta Products Corp., Murata Electronics North America, Inc., Murata Manufacturing Co., Ltd., Murata Power Solutions, Inc., and Power-One, Inc. (collectively the "Fish Defendants") motion for JMOL on the issues relating to damages (Dkt. Nos. 813 and 973). Also pending before the Court are Defendants Artesyn and Astec motion for JMOL on the issues relating to damages for pre-suit induced and contributory infringement (Dkt. Nos. 869 and 966). Because the Court has only entered a partial judgment on the verdict, the Court considers all of these pending motions as motions for judgment as a matter of law pursuant to Fed. R. Civ. P. 50(a). Having carefully considered the parties' submissions, the record, and the applicable law, the Court finds that the motions should be DENIED.

## **II. FACTUAL AND PROCEDURAL BACKGROUND**

Near the close of Plaintiff's case-in-chief, the Court inquired on whether the parties were willing to stipulate to filing their JMOLs in writing before the close of trial. (*See* 12/16 PM Tr. at 53:24-54:21.) The parties agreed to stipulate that any JMOL filed by close of business on December 21, 2010, would be considered timely filed. (*See* 12/20 AM Tr. at 163:23-167:9.) The Court then instructed the parties that they were to file their JMOLs in writing by close of business on December 21, 2010. (*See id.*) The Court allowed this stipulation to preserve the parties right to file a post-trial Rule 50(b) motion. *Taylor Pub. Co. v. Jostens, Inc.*, 216 F.3d 465, 471 (5th Cir. 2000). The Court then overruled all JMOLs made by the parties with respect to sufficiency of the evidence or lack of the evidence, and informed the parties that they could renew their JMOLs after the verdict if they wished. (*See* 12/20 9:30 PM Tr. at 3:22-4:4; 12/21 A.M. Tr. at 11:12-13:18.)

On December 21, 2010, the jury reached a verdict finding that Defendants Artesyn Technologies, Inc. and Astec America Inc. (collectively "Astec"); Bel Fuse, Inc. ("Bel Fuse"); Cherokee International Corp. and Lineage Power Corporation (collectively "Lineage"); Delta Electronics, Inc. and Delta Products Corp. (collectively "Delta"); Murata Electronics North America, Inc. and Murata Manufacturing Co., Ltd. (collectively "Murata"); Murata Power Solutions, Inc. ("MPS"); and Power-One, Inc. ("Power-One") (collectively "the Fish Defendants") infringe various claims of the patents-in-suit. (*See* Dkt. No. 889, Jury Verdict). The jury failed to find invalidity of any of the patents-in-suit.

## **III. LEGAL STANDARD**

### **a) JMOL**

A motion for JMOL is a procedural issue not unique to patent law; thus, such motions are

reviewed under the law of the regional circuit. *Summit Tech., Inc. v. Nidek Co.*, 363 F.3d 1219, 1223 (Fed. Cir. 2004). In the Fifth Circuit, JMOL may only be granted if “there is no legally sufficient evidentiary basis for a reasonable jury to find as the jury did.” *Hiltgen v. Sumrall*, 47 F.3d 695, 700 (5th Cir. 1995) (internal citation omitted); *see also* Fed. R. Civ. P. 50(a)(1) (stating that JMOL may be granted only if “the court finds that a reasonable jury would not have a legally sufficient evidentiary basis to find for the party on [an] issue.”). In ruling on a motion for JMOL, the court reviews all the evidence in the record and must draw all reasonable inferences in favor of the nonmoving party. *See Reeves v. Sanderson Plumbing Prods., Inc.*, 530 U.S. 133, 150-51 (2000). The court, however, may not make credibility determinations or weigh the evidence, as those are solely functions of the jury. *Id.* That is, the court gives “great deference to a jury’s verdict” and it should be overturned “only if, when viewing the evidence in the light most favorable to the verdict, the evidence points so strongly and overwhelmingly in favor of one party that the court believes that reasonable jurors could not arrive at any contrary conclusion.” *Dresser-Rand Co. v. Virtual Automation Inc.*, 361 F.3d 831, 838 (5th Cir. 2004).

**b) Damages**

The amount of a prevailing party’s damages in a patent case “is a finding of fact on which the plaintiff bears the burden of proof.” *SmithKline Diag., Inc. v. Helena Labs. Corp.*, 926 F.2d 1161, 1164 (Fed. Cir. 1991). To carry this burden, the patentee must sufficiently tie the expert testimony on damages to the facts of the case. *Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292, 1316 (Fed. Cir. 2011). Generally, patentees tend to try to fit their damages cases into either the “lost profits” framework or the statutory grant of a reasonable royalty. *See, e.g.*, 7 Donald S. Chisum, *Chisum on Patents* § 20.01 (2005) (“The three traditional modes of measuring compensatory damages are lost profits, established royalty, and reasonable royalty.”).

A lost profits award requires (1) showing that the patent owner would have made the sale but-for the infringement, *i.e.*, causation existed, and (2) proper evidence for the computation of the loss of profits. *King Instrument Corp. v. Otari Corp.*, 767 F.2d 853, 863 (Fed. Cir. 1985). One way to establish causation is the four-part test applied in *Panduit Corp. v. Stahlin Bros. Fibre Works*, 575 F.2d 1152, 1156 (6th Cir. 1978). Under *Panduit*, the patent owner must prove (1) a demand for the patented product, (2) an absence of acceptable non-infringing substitutes, (3) the manufacturing and marketing capability to exploit the demand, and (4) the amount of profit the patent owner would have made. *Standard Haven Prods. v. Gencor Indus., Inc.*, 953 F.2d 1360, 1373 (Fed. Cir. 1992) (citation omitted). However, *Panduit* is not the exclusive method of proving entitlement to lost profits. “This court has prescribed no one particular method by which the patent owner must meet [the] burden [of proving lost profits]; ‘the methodology of assessing and computing damages is committed to the sound discretion of the district court.’” *King Instruments Corp. v. Perego*, 65 F.3d 941, 952 (Fed. Cir. 1995) (quoting *State Indus., Inc. v. Mor-Flo Indus., Inc.*, 883 F.2d 1573, 1576-77 (Fed. Cir. 1989), *cert. denied*, 493 U.S. 1022 (1990)); see *Micro Chemical, Inc. v. Lextron, Inc.*, 318 F.3d 1119, 1122 (Fed. Cir. 2003) (“This court has not restricted patentees to any one particular method of proving “but for” causation.”) (citations omitted).

“[T]o prove that there are no acceptable non-infringing substitutes, the patent owner must show either that (1) the purchasers in the marketplace generally were willing to buy the patented product for its advantages, or (2) the specific purchasers of the infringing product purchased on that basis.” *Standard Haven*, 953 F.2d at 1373. “However, it is not necessary for the patent holder to negate all possibilities that a purchaser might have bought a different product or might have foregone the purchase altogether.” *Minnesota Mining and Mfg. Co. v. Johnson & Johnson*

*Orthopaedics, Inc.*, 976 F.2d 1559, 1577 (Fed. Cir. 1992). “Once the patent owner establishes a reasonable probability of ‘but for’ causation, ‘the burden then shifts to the accused infringer to show that [the patent owner’s ‘but for’ causation claim] is unreasonable for some or all of the lost sales.’” *Grain Processing Corp. v. American Maize-Products Co.*, 185 F.3d 1341, 1349 (Fed. Cir. 1999) (citations omitted). The “[m]ere existence of a competing device does not make that device an acceptable substitute.” *TWM Mfg. Co., Inc. v. Dura Corp.*, 789 F.2d 895, 901 (Fed. Cir. 1986). Moreover, “substitutes only theoretically possible,” rather than actually available, will not limit lost profits. *Grain Processing*, 185 F.3d at 1353. If an “infringer had to design or invent around the patented technology to develop an alleged substitute” that weighs against a finding of availability. *Micro Chemical, Inc. v. Lextron, Inc.*, 318 F.3d 1119, 1123 (Fed. Cir. 2003).

Regarding a reasonably royalty award, *Georgia-Pacific Corp. v. United States Plywood Corp.*, 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970), sets forth a list of relevant factors that should be considered by a damages expert when conducting a reasonable royalty analysis. As the Federal Circuit recently explained in *ResQNet.com, Inc. v. Lansa, Inc.*, 594 F.3d 860, 869 (Fed. Cir. 2010), “a reasonable royalty analysis requires a court to hypothesize, not to speculate.” Therefore, “expert testimony opining on a reasonable royalty rate must ‘carefully tie proof of damages to the claimed invention’s footprint in the market place.’” *Uniloc*, 632 F.3d at 1317. Further, “there must be a basis in fact to associate the royalty rates used in prior licenses to the particular hypothetical negotiation at issue in this case.” *Id.*

#### **IV. DISCUSSION**

Defendants’ argue that a reasonable jury would not have a sufficient evidentiary basis to reach the amount of damages awarded by the verdict. Specifically, Defendants make the

following arguments:

- (1) SynQor is not entitled to lost profits and reasonable royalty damages awards because it used an unsupportable “but for” pricing and inadequate consideration of price elasticity.
- (2) SynQor is not entitled to lost profits damages award because its lost profits damages award was based on theoretical profits and revenues far in excess of those actually achieved by SynQor or any of the Defendants.
- (3) SynQor is not entitled to reasonable royalty damages awards because it failed to establish any royalty amount whatsoever for the vast majority of accused sales.
- (4) SynQor is not entitled to reasonable royalty damages awards because it failed to prove that its second tier royalty rate of 20% was based on comparable license agreements.
- (5) SynQor is not entitled to lost profits damages award because it failed to prove fully-regulated bus converters are not acceptable non-infringing alternatives to the accused bus converters.
- (6) SynQor is not entitled to lost profits damages award related to accused bus converter sales to Brocade because it failed to prove AC-12V front-end converters are not acceptable non-infringing alternatives to the accused bus converters.
- (7) SynQor is not entitled to lost profits damages award because it failed to establish that it would have made most, if not all, of the Defendants’ bus converter sales.
- (8) SynQor is not entitled to lost profits damages award because it failed to establish capacity to make all the but-for sales.
- (9) SynQor is not entitled to lost profits damages award because it failed to prove bus converter sales by third-party suppliers infringe SynQor’s patents under 35 U.S.C. § 271.

(10) SynQor is not entitled to any pre-suit damages because no reasonable jury could conclude that Defendants had pre-suit knowledge of the ‘190, ‘021, and ‘034 patents, thus barring any finding of pre-suit damages.

Having carefully considered the record, and the parties’ arguments, the Court concludes that the jury had a legally sufficient evidentiary basis for awarding the amount of damages in this case. Because Defendants’ JMOLs overlap in areas and at different levels of specificity, the Court will address Defendants’ arguments by topics. The Court addressed Defendants pre-suit knowledge in a related JMOL order and found that there was sufficient evidentiary basis for a reasonable jury to conclude that Defendants’ had pre-suit knowledge of the ‘190, ‘021, and ‘034 patents.

**a) Lost Profits, Sales at But-for Prices, and SynQor’s Capacity.**

Defendants argue that SynQor presented insufficient evidence to support the “but for” pricing used to calculate its lost profits, and insufficient evidence of how many of Defendants’ sales it would have made at the “but-for” prices. (*See, e.g.*, Dkt. 968 at 16-24.) The Court finds that there was sufficient evidence supporting the jury’s verdict on each point. For instance, the jury heard evidence that the market for unregulated and later semi-regulated bus converters, prior to the issuance of the SynQor patents, was characterized by severe price erosion. The jury learned that SynQor was able to charge prices for its bus converters that are in line with the prices in its damages model (prices in the range of \$60-\$110 per unit), only to see competitors offer “look-alike, imitation products” at lower and lower prices. (12/13 PM Tr. at 123:15-124:18.) Dr. Schlecht also discussed a presentation SynQor used with potential customers showing that at a proposed \$70 per unit price for a certain unregulated bus converter, the customer would realize an estimated \$180 per unit in cost savings. (12/13 PM Tr. at 96:13-98:1,

*discussing* PTX 39 at 33.) Additionally, in 2002, SynQor sold H-P and Sun Microsystems a 20-amp bus converter for \$84 per unit. (12/16 AM Tr. at 46:8-14, *discussing* Dkt. No. 991, Exh. D, slide 12a.) Bel Fuse's Mark Jutras also testified that Bel Fuse had paid \$160 for a SynQor bus converter in 2005. (12/14 PM Tr. at 164:8- 165:13.) The jury also heard that the interest of Cisco and other customers is what prompted Defendants to develop unregulated bus converters for use in IBA. (12/14 PM Tr. at 158:20-159:12 (Bel Fuse); *id.* at 175:4-19 (Lineage); *id.* at 182:17-20 (Cherokee).) In summary, while SynQor had largely been priced out of the market during the years of price erosion, there were multiple points in time at which competitive conditions allowed SynQor to command prices in line with or exceeding the but-for prices used to support the request for damages in this case.

The jury also heard that once SynQor's patents issued, SynQor sold a limited number of bus converters in the \$30 to \$35 range, but did so reluctantly and could have sold products at a "much higher price" if not for the competition from infringers. (12/13 PM Tr. at 124:19-125:17.) That is, the jury heard testimony that the Defendants were "pricing these products in a way that they were making very little money." (12/16 AM Tr. at 55:1-12.) The jury also heard evidence that following the issuance of the SynQor patents, nothing really changed—prices remained low because SynQor's patent rights were not respected, and it did not enjoy the exclusivity that its patents should have provided. (12/16 AM Tr. at 37:16-25.) Moreover, the jury heard evidence that Cisco purchased about 18,000 unregulated bus converters from SynQor during the Spring and Summer of 2010 at \$70 and \$81 per unit (12/20 PM Tr. at 125:2-10)—prices that a jury could conclude were in line with the prices in SynQor's damages model. The jury heard that the reason Cisco turned to SynQor for supply was because Cisco could not obtain unregulated bus converters from Defendants.

The jury also learned that SynQor was not interested in licensing its patents to competitors. (12/15 PM Tr. at 189:2-11.) Instead, SynQor wanted to use its technology to grow and compete and “increase [its] position in the market.” (*See, e.g., id.* at 188:18-25.) The jury learned that SynQor had ample capacity to supply customers with the products they had been buying from the Defendants. (12/15 PM Tr. at 200:2-203:18; 12/16 AM Tr. at 4:18-7:11; PTX 2201, 2207, 2199; 12/13 PM Tr. at 148:6-149:18.)

Against this backdrop, the jury heard the testimony of SynQor’s damages expert, Mr. Brett Reed. Mr. Reed conducted an economic analysis and calculated damages that would adequately compensate SynQor for Defendants’ infringement. Mr. Reed explained to the jury at some length how he determined the but-for prices he used in his damages model. (*See generally*, 12/16 AM Tr. at 37:4-42:14; PTX 2198.) Mr. Reed explained why and how the \$70 and \$81 prices Cisco paid in 2010 were used as benchmarks in determining but-for pricing. (*Id.* at 49:17-52:15.) Mr. Reed also testified as to how he calculated a range of prices for all of the SynQor products that would have been sold in place of infringing products in a but-for world by taking into account differences in power levels among the bus converters. (*See id.* at 49:11-52:15; *citing* PTX 2198). The jury generally heard that all other things being equal, converters that generate more power are more expensive. Mr. Reed explained that he arrived at the prices for different products identified by Dr. Schlecht as SynQor’s substitutes for the infringing products (as reflected in Columns 4 and 6 of PTX 2198) by starting with the benchmark sales to Cisco and adjusting for power differences using a mathematical guideline that Mr. Reed, based on his discussions with Dr. Schlecht, found to be a “useful way of assessing the value as power changes.” (*See* 12/16 AM Tr. at 50:5-52:15; PTX 2198 at columns 4 and 6.)

Where the evidence suggested a reason SynQor may not have been in a position to make

the sale of a particular unit sold by Defendants at the “but-for” price, Mr. Reed excluded that unit from his lost profits calculation and instead calculated an appropriate reasonable royalty award for that unit, thereby ensuring that SynQor would receive at least the statutory minimum recovery on all infringing sales. (*See, e.g., id.* at 189:13-23.) Mr. Reed provided a detailed analysis breaking down the damages to be awarded on a customer-by-customer, product-by-product basis, separately calculating lost profits for most infringing sales and reasonable royalties for the balance. (*See* PTX 2169, 2172-2179 (lost profits by Defendant); PTX 2170, 2188-2196 (reasonably royalties by Defendant)). After considering the evidence on the value of the technology, the price erosion that had transpired in the real world, and Mr. Reed's expert analysis of the damages SynQor suffered, the Court finds that the jury had sufficient evidentiary basis to agree with Mr. Reed's assessment and award the damages consistent with his analysis.

Defendants also attack SynQor's damages case as not having sufficiently accounted for price elasticity in the “but for” market at “but for” prices. (Dkt. No. 968 at 20-24.) But SynQor presented sufficient evidence that customers would have paid SynQor's but-for prices if faced with a world in which SynQor was the sole supplier of the infringing products. (*See* 12/16 AM Tr. at 69:14-74:23; *see also* Dkt. No. 991, Exh. D, slide 15.) Accordingly, the Court finds that the jury had sufficient evidentiary basis to conclude that customers would have paid those prices at least through the damages period analyzed, without reducing demand beyond the reduction in demand predicted by Mr. Reed.

Finally, the Fish Defendants argue that the “sheer size” of the jury's damages award does not square with reality. (Dkt. No. 973 at 13.) In making this argument, the Fish Defendants fixate on comparing the lost profits awarded by the jury to the revenue and profits associated with their sale of accused bus converters. (*Id.* at 13-14.) This, however, misses the point because

if SynQor’s patent rights had been respected, the market for bus converters would have been fundamentally different beginning in July 2006, when SynQor’s ‘190 patent issued. The Fish Defendants’ arguments are grounded in what happened in the *actual* world, which was fundamentally unlike the world that would have existed but-for the Defendants’ infringement. The jury heard evidence that in the actual world, prices had eroded to a point that customers were not fairly compensating suppliers for the value of the technology that was being supplied. The jury also heard evidence that SynQor had no interest in merely participating in the market for unregulated and semi-regulated IBA alongside competitors angling for sales at ever-lower prices, but was instead intent on becoming the sole U.S. supplier at prices reflecting the value of Dr. Schlecht’s inventions. The Fish Defendants’ arguments ignore all of this. A party seeking to recover lost profits is entitled to “full compensation for any damages the patent owner suffered as a result of the infringement” so long as it can “show a reasonable probability that he would have made the asserted sales ‘but for’ the infringement.” *Grain Processing*, 185 F.3d at 1349 (citation omitted).

In summary, the Court finds that there was sufficient evidentiary basis for a reasonable jury to conclude that the but-for prices used by Mr. Reed in his damages analysis were reasonable. The jury heard evidence of the benefits and value of the patented technology, evidence of actual pricing that was helpful in predicting prices in a but-for world, and evidence confirming the reasonableness of Mr. Reed’s but-for pricing structure. Importantly, the jury heard all this evidence against the backdrop of SynQor’s fundamental right to exclude competition, and of SynQor’s desire to enforce that right.

**b) Reasonable Royalty**

**i. Tier 1 Reasonable Royalty**

Mr. Reed presented a “two-tiered” royalty analysis at trial. The “Tier 1” royalty applied to those sales made by the Defendants during the hypothetical transition period when SynQor was completing the design of a comparable bus converter or was getting a bus converter qualified at a customer—“[D]uring the transition[,] what I call the Tier 1 royalty structure would apply.” (12/16 AM Tr. at 86:9-13). By adopting the Tier 1 model, Mr. Reed conceded that SynQor would not have made these sales and therefore applied a royalty. Mr. Reed hypothesized that the Defendants would agree to pay 50% of the “but for” pricing as a royalty. Defendants argue that the jury erred by accepting Mr. Reed’s suggested “Tier 1” royalty.

As Mr. Reed explained, the first tier (or "Tier 1") royalty was awarded on units that were excluded from the lost profits analysis because they were sold by Defendants at a time that—in the but-for world—customers would have transitioned from Defendants’ products to SynQor’s comparable products, which was principally in late 2006 and 2007. (*See* 12/16 AM Tr. at 86:10-13; 88:13-23; 105:13-17.) Mr. Reed opined that a royalty of \$30 to \$53.50 per unit would be paid for these transition units, depending on the particular bus converter at issue. Mr. Reed reached this conclusion by assuming that Defendants would want to maintain a supply of unregulated and semi-regulated bus converters immediately after the patents issued. (*See id.* at 81:10-13; PTX 2188-2196 (royalty calculations, by product, for each Defendant, listing per unit rates).)

Defendants’ principal complaint is that at a range of \$30 to \$53.50, the “royalty is well in excess of the actual profits and revenues generated for each sale” and that there is “no evidence upon which the jury could infer that the Defendants would have agreed to pay Mr. Reed's 'tier 1'

royalty.” (Dkt. No. 973 at 28.) But, as noted earlier, the jury heard that the profits and revenue generated by Defendants on these products was historically low because of a history of price erosive competition among the Defendants. In fact, Mr. Reed explained that in determining a royalty it was necessary to consider “the value of the power architecture, which includes the bus converter, includes point-of-loads, includes board space where the customer is putting these products on it,” and that when that is done the royalties proposed are “a smaller percentage of the entire power architecture or, of course, of the total end product of the customer.” (12/16 AM at 82:11-18.) This was entirely consistent with the testimony of Dr. Schlecht that his invention covered not just a component part of a system, but the power architecture in which the component bus converters were used. (12/13 PM Tr. at 31:4-36:7.)

Additionally, the jury heard evidence about SynQor’s planned use of the technology and that it had no desire to license its technology to competitors for relative low royalties. (See 12/16 AM Tr. at 83:21-84:5.) As reflected by the record, SynQor’s objective was and is to sell its own bus converters at prices reflecting the value of its technology. This evidence was particularly relevant to Mr. Reed’s consideration of the *Georgia-Pacific* factors, and he emphasized the factors under which he considered SynQor’s licensing history and policy; SynQor’s business plan (*i.e.*, its desire to maintain the technology as its own); the nature and benefits of the patented inventions; the lack of acceptable alternatives; and the fact that the licensees were intense competitors who had—in the years leading up to the hypothetical negotiation—demonstrated a willingness to sell the products at levels that appeared to be unprofitable. (12/16 AM Tr. at 79:24-81:1; 83:17-85:9.)

The jury also heard Mr. Reed explain that if Defendants had to pay the royalty as part of their cost, they could price their United States products appropriately, thereby reversing the

erosion of prices that took place in the years leading up to the issuance of SynQor's patents. (*Id.* at 82:19-85:9.) Mr. Reed opined that "there was a lot of value for this technology that was essentially given away to customers," but that in a but-for world in which SynQor's patent rights were respected, the pricing would fall back into line with the "value that its technology provides to the industry." (*Id.* at 83:3-16.) By charging a royalty of \$30 to \$53.50 per unit, SynQor could ensure that the Defendants had a cost structure that reflects the value of the technology, thereby eliminating complaints about SynQor's prices. (*Id.* at 84:19-85:9.)

In summary, the fact that Tier 1 royalties would exceed Defendants' actual world selling prices in some cases does not mandate a finding that the jury's verdict lacked evidentiary support. As explained above, in a world in which SynQor would be the sole supplier, the but-for pricing would be higher because customers would be willing to pay a price consistent with the benefits of the technology. Moreover, the jury heard evidence that customers such as Cisco have paid these prices at times. (12/16 AM Tr. At 39:15-23.) Defendants argue that "it would defy common sense, logic, and good business practices for the Defendants to agree, in advance, to a royalty assuming a massive price increase that may never occur." (Dkt. No. 973 at 29.) However, the Court finds that there was sufficient evidence for the jury to conclude that customers and Defendants would have accepted the price increases in a world without infringement, given the evidence related to the historical pricing and the value of the technology.

## **ii. Tier 2 Reasonable Royalty**

Defendants also attack Mr. Reed's \$12 per unit Tier 2 royalty. Mr. Reed explained that he calculated a Tier 1 royalty to be used to compensate SynQor for units sold by Defendants in the so-called "transition" period. That is, Mr. Reed's \$12 per unit Tier 2 royalty was used to compensate SynQor for the other units excluded from the lost profits calculation. (See 12/16 AM

Tr. at 85:10-88:12.) The \$12 royalty also provided a licensing rate at which customers could obtain a source of supply from a supplier other than SynQor, if SynQor chose not to supply, thus alleviating any worries about SynQor's sole source status. Defendants contend that \$12 per unit Tier 2 royalty was "based on a 20% royalty rate which he derived from two license agreements." (Dkt. No. 968 at 24.) The evidence, however, shows that the Tier 2 royalty was based on more than the two license agreements.

Mr. Reed determined his royalty structure, including the Tier 2 royalty, based on a careful consideration of all the *Georgia-Pacific* factors as applied to all of the facts of this case. Importantly, as was the case with the Tier 1 royalty, Mr. Reed referenced the *Georgia-Pacific* factors as guiding his entire royalty analysis and drew support for the proposed Tier 2 royalty from the substantial value offered by the patented inventions, as discussed above. Mr. Reed reviewed the *Georgia Pacific* factors with the jury (*see* Dkt. No. 991, Exh. D, slide 17), with a particular focus on the factors that were most important to his analysis. (12/16 AM Tr. at 79:24-81:1.) The \$12 rate reflects a reasonable royalty in light of the value of the technology as reflected, the widespread adoption of the IBA architecture in the customers' expensive, high-tech products, the board space savings resulting from unregulated and semi-regulated IBA, and what the premium customers would and did pay for this technology when they had no options.

In summary, although the jury heard evidence that SynQor's damages case was primarily a lost profits case, the jury also heard sufficient evidence that SynQor was entitled to a reasonable royalty award on units not covered by the lost profits award. Mr. Reed proposed a two-tier royalty structure, and his proposed lost profits and reasonable royalty awards were independently calculated. The Court concludes that the jury has a sufficient evidentiary basis to reject Defendants' proposed reasonable royalty of 5% of net product revenues, which amounted

to a per unit rate of approximately \$1 to \$2), and adopt Mr. Reed’s damages analysis. (12/20 PM Tr. at 84:22-85:6.) Accordingly, the Court finds that there was sufficient evidence for the jury to conclude that SynQor was entitled to lost profits on most units and a reasonable royalty on the units excluded from the lost profits award at the Tier 1 and Tier 2 rate.

**c) Acceptable Non-infringing Alternatives.**

Defendants argue that SynQor failed to prove the absence of acceptable non-infringing alternatives. For purposes of deciding a motion for JMOL, the Court must “consider all the evidence in the light most favorable to [SynQor], drawing all factual inferences in favor of [the nonmovant].” *DP Solutions, Inc. v. Rollins, Inc.*, 353 F.3d 421, 427 (5th Cir. 2003). Considering all of the evidence in the light most favorable to SynQor, the Court concludes that the jury has a sufficient evidentiary basis to find that there were not any acceptable non-infringing alternatives.

For example, the jury heard evidence that redesigning a load board to accommodate a new type of converter or a new architecture is an expensive, time-consuming proposition that sometimes even requires the approval of the end customers. (*See* 12/14 AM Tr. at 22:13-23:3 (when making a change to an end product, end customer has to decide whether to accept change); 12/14 PM Tr. at 137:7-138:9 (redesigning a Cisco board requires feasibility study, board design and layout, and testing); 12/14 PM Tr. at 153:15-154:17 (Power-One designee testifying that old approach to power distribution is less efficient and less effective, and going back to it would not be easy given the need to redesign boards).) This evidence undermines any suggestion that substituting allegedly non-infringing products for infringing products would be a simple matter. It also explains why there is little evidence that efforts were undertaken to find non-infringing solutions—and only then years after this lawsuit was filed.

The jury also heard testimony from SynQor’s technical expert, Dr. Steven Leeb, who

examined all the alleged non-infringing alternatives proposed by Defendants and testified that he found none of them to be suitable non-infringing alternatives for the specific applications at issue. (12/15 AM Tr. at 171:7-176:22). Dr. Leeb found that either the proposed alternatives infringe SynQor's patents or that they failed to provide the unique attributes of the patented technology that provide desired benefits to end customers. (*Id.* at 171:7-187:15; 12/15 PM Tr. at 4:4-15:7.) Similarly, Dr. Schlecht testified about the unique benefits of the patented technology (12/13 PM Tr. at 19:3-22:5; 90:1-92:23). Having considered the testimony of Drs. Leeb and Schlecht and having conducted his own review of financial and economic information, SynQor damages expert, Mr. Reed, concluded that "for the vast majority of all the products that were sold by the Defendants, there were not acceptable non-infringing alternatives to the patented systems." (12/16 AM Tr. at 8:20-23.) The jury heard that Mr. Reed reached his conclusions after examining sales patterns and trends for the supposed alternatives and the infringing products, in addition to considering the technical input of Drs. Leeb and Schlecht. (*Id.* at 9:10-10:4.)

Defendants argue that Mr. Reed and Dr. Leeb disagreed on the standard for determining acceptable non-infringing alternatives. (Dkt. 968 at 7.) But the Court does not find an inconsistency. Mr. Reed discussed the few instances in which the Defendants had identified a fully regulated product that had a "similar footprint, a similar power density" as compared to an infringing unregulated product. (12/16 AM Tr. at 13:22-15:16.) For the few products that had been identified for which the power density of the identified fully regulated product was similar to an infringing unregulated product, Mr. Reed did not seek lost profits. (*Id.* at 14:18-25; 18:22-19:10.) He explained, however, that by excluding those units he was "giving the Defendants the benefit of the doubt," because the customer faced with a choice "may have switched in spite of the technical advantages" of the unregulated product over the fully regulated product. (*Id.* at

14:2-15:3). Based on his review of sales records, Mr. Reed further explained that fully regulated products with what defendants claimed were similar power levels were not available until “very recently”—late 2009 or 2010—and were sold in some cases in very small volumes. (*Id.* at 15:3-12.) Mr. Reed also explained that in the three years or so that the lawsuit was pending prior to trial, he did not see sales patterns that suggested a decrease in the sales of unregulated and semi-regulated products and a corresponding increase in the sales of fully regulated allegedly substitute products. (*See id.* at 17:11-22.) Mr. Reed also emphasized that while “there were a couple of examples where it might have been possible that a customer would switch to a non-infringing alternative … that doesn't take away the fact that for the vast majority of all the Defendants' sales of unregulated and semi-regulated bus converters … there was not an acceptable alternative, and, thus, customers would have turned to SynQor to get the advantages of this patented technology.” (*Id.* at 16:7-20.)

In addition, any technical deficiencies overlooked by Mr. Reed were noted by Dr. Leeb in his testimony explaining why fully regulated converters were unacceptable alternatives to the unregulated converters. (*See generally*, 12/15 AM Tr. at 171:7-176:22.) For example, Dr. Leeb explained that he investigated whether an alleged substitute “offer[ed] the same benefits that the asserted claims would offer to a power system in practice.” (*Id.* at 173:13-16.) He considered power density, efficiency, stability, and cost and testified that he “did not find suitable non-infringing alternatives for the unregulated and semi-regulated bus converters.” (*Id.* at 173:1-176:22.) But there is nothing inconsistent in Mr. Reed's and Dr. Leeb's approaches. Mr. Reed did not disagree with Dr. Leeb's analysis; Mr. Reed just chose to be conservative in his damages calculation.

Dr. Leeb also testified at length as to why fully regulated converters are not suitable non-

infringing alternatives. (*See generally*, 12/15 AM Tr. at 182:8-187:15; 12/15 PM Tr. at 4:4-11:5.) He examined end customer load boards and datasheets for supposed non-infringing alternatives identified by the Defendants, and “did not find a fully regulated converter that would be a suitable non-infringing alternative” for the accused systems. (12/15 AM Tr. at 182:8-183:5.) Judging the fully regulated converters on their power handling capability, efficiency, and stability, Dr. Leeb found “nothing for fully regulated products that offered the benefits of the unregulated bus converters to the end customer systems.” (*Id.* at 183:15-24.) Like Dr. Schlecht, he noted that the newest fully regulated converters were getting closer to delivering the same power levels as unregulated converters due to improvement in the basic components of the converters, but he went on to explain that “even the freshest, brand-spanking-new-seeming fully regulated converters that are being advertised still don't offer [comparable power, efficiency, and stability] when you make the comparison against the unregulated converters and are not going to provide the benefits of the asserted claims.” (*Id.* at 186:5-187:15.) Dr. Leeb further explained why fully regulated converters would not be suitable alternatives for semi-regulated bus converters. (12/15 PM Tr. at 7:7-11:5.)

Mr. Reed's testimony was similar. He examined the power density offered by the alleged substitutes, and found that (even putting aside other technical shortcomings of the fully regulated product) “the fully regulated product in most circumstances would not provide the same power in the smaller space, and, thus, would not be acceptable.” (12/16 AM Tr. at 12:23-13:21.) He testified about one of the supposed fully regulated non-infringing alternatives from Power-One, specifically noting that when he examined the sales records for that supposed alternative, they showed eight units had been sold for a total of zero dollars. (*Id.* at 166:10-167:2.) Mr. Reed found this to be notable because Defendants had been facing a lawsuit for three years, and there

was ample incentive to develop and incorporate such alternatives had it been possible to do so. (*Id.* at 167:12-20.) A jury would be well within reason to question the notion that the Power-One converter was an acceptable, available substitute where there was sufficient evidence that there had been little to no commercial adoption of the supposed substitute product.

In addition, Cisco's Mr. Ballenger admitted at trial that, as of the time of his deposition in August 2010, Cisco had only considered the alternative of a drop-in fully regulated replacement with the same form factor for the unregulated converters it was using. (12/20 PM Tr. At 56:18-57:6.) He also admitted that Cisco wanted a drop-in replacement that generated the same power out of the same form factor because Cisco needed a product that does not consume more space than unregulated bus converters, and did not want to re-spin existing boards because doing so would involve new CAD design, new testing, and qualification. (*Id.* at 57:3-58:4.) Mr. Ballenger also admitted that although Cisco started looking for a possible drop-in replacement several months before August 2010, as of the date of his deposition he had not seen or even requested a sample of any fully regulated converter that could be used as a substitute. (*Id.* at 58:15-19:60:3.) Mr. Ballenger's testimony about needing a drop-in replacement was entirely consistent with testimony about the benefits of unregulated and semi-regulated IBA generally, and likewise consistent with Dr. Schlecht's observation that he did not believe customers like Cisco would want to take a step "backwards" by adopting inferior technology. (See 12/13 PM Tr. at 133:18-22.)

Defendants also contend that AC-12V front ends are an acceptable non-infringing alternative for a single customer, Brocade. (Dkt. No. 968 at 8-9, 15.) Defendants contend that the jury heard that Brocade's boards "could be" modified to use an AC-12V front end, if necessary. (*Id.* at 8.) But this testimony was not the only evidence the jury heard on the subject.

Mr. Ballenger testified that Cisco has never converted any boards that use unregulated IBA to an AC-to-DC front end without an isolated converter on the board. He explained that this had never occurred because the isolated converter on the board helps prevent noise problems on the board and because an AC-to-DC front end without an isolated converter puts out a high voltage that is not suitable for feeding directly into the point-of-load converters, thereby making AC-to-DC front ends unsuitable as a substitute for unregulated IBA on Cisco's boards. (12/14 PM Tr. at 123:17-124:18.) Mr. Ballenger's colleague, Mr. Seto, testified that he is not aware of any Cisco board using unregulated IBA that has been re-done to use a different power architecture. (*Id.* at 136:7-137:1.) Mark Wagner of Cherokee similarly testified that he is not aware of any end customers of systems accused in this case that have switched from unregulated IBA to something else (such as AC-12V front ends) for the same application. (12/17 PM Tr. at 145:17-25.) The jury also heard Dr. Leeb explain why the AC-12V front end alternative is not a suitable non-infringing alternative to the claimed systems. (12/15 PM Tr. at 13:20-15:7.) As Dr. Leeb explained, in summing up his opinion, the AC-12V architecture was "an inconvenient and less space-efficient way to distribute the power to these sorts of systems." (*Id.* at 15:3-5.) Accordingly, the Court finds that there was sufficient evidence for the jury to conclude that the AC-12V front ends were not suitable non-infringing alternatives.

Finally, the difficulty of substituting allegedly non-infringing for infringing products was further corroborated by the testimony of Cisco Systems when seeking to delay the effect of the Court's permanent injunction in this case. Cisco asserted that it needed approximately eight months from January 2011 to complete a transition to allegedly non-infringing products—having started the process sometime in the first half of 2010. (Dkt. No. 919-8, Ballenger Decl. ¶ 17.) Cisco's position in attempting to delay the effect of an injunction stands in stark contrast to the

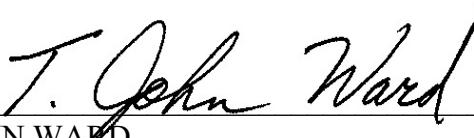
Defendants' claim that allegedly non-infringing alternatives were readily available during the damages period.

## V. CONCLUSION

The Court DENIES Defendants' motions for JMOL on the issues related to damages because the Court concludes that sufficient evidence supports the damages awarded by the jury.

It is so ORDERED.

SIGNED this 17th day of August, 2011.

  
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T. JOHN WARD  
UNITED STATES DISTRICT JUDGE